

REMARKS

Claims 1-16 are pending for examination with claims 1 and 11 being independent claims. Claim 6 is amended herein. No claims have been added or canceled. No new matter has been added. The application as presented is believed to be in condition for allowance.

Claim Objections

In the Office Action, the Examiner objected to claim 6 because of the following informalities:

On line 2 of claim 6, “an domain name server request” should be changed to –a domain name server request –. In response, Applicant has amended claim 6 in accordance with the Examiner’s suggestion to rectify the informality. Accordingly, withdrawal of the objection to claim 6 is respectfully requested.

Rejections Under 35 U.S.C. §102

Claims 1, 11 and 14 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,845,091 to Dunne, et al. (hereinafter Dunne). Applicant respectfully traverses this rejection.

Dunne discloses a method for filtering an internetwork packet wherein multiple paths to a destination network are provided. (Abstract). When an internetwork packet is destined for the destination network is received, the packet is forwarded to the destination network via the default path if the primary entry indicates a valid path. (Abstract). Otherwise, the packet is forwarded to the destination network via another path as indicated by another entry in the forwarding list. (Abstract). In the source network, a single router is provided with a traffic filter that allows the user to select the path that traffic to the destination network will follow. (See Col. 2, Ins. 28-30; Fig. 8 – Router 801). Router 801 is provided with a traffic filter that ensures only a user-selected one of router 802 and router 803 is used to route packets to network B. (Col. 4, Ins. 47-50). The only criterion required [for route selection] is the destination IP address of network B. (Col. 4, Ins. 50-52). The criterion applied [by router 801] to the data packet is shown at process block 915, wherein router 801 determines whether the destination IP address is equal to the destination IP address of network B. (Col. 4, Ins. 56-59). Dunne discloses the ability to select one of a

plurality of paths to a single destination network at the network layer of the OSI reference model. (Col. 5, lns. 16-18).

In summary, Dunne teaches a method of internetwork packet filtering at the network layer using a forwarding list stored at a single router internal to the source network that is used to connect a network to external devices. (See Abstract; Fig. 8; and Col. 5, lns. 16-18). The single router (801) employs a traffic filter to forward internetwork packets over different paths defined by entries in the forwarding list based on a test for a valid path. (See Abstract; Fig. 8 – router 801; and Col. 4, line 64 – Col. 5, line 9).

In contrast to Dunne, claim 1 recites in a primary access device connecting a first network to a second network over a primary connection, a method for providing a backup connection between said first network and said second network. Claim 1 further recites the steps of detecting a failure in said primary connection, receiving, at said primary access device, a data packet originating from said first network and having a destination address at the ISO datalink layer 2, and replacing, in said data packet, said destination address with a backup access device datalink address identifying a backup access device capable of providing said backup connection; whereby said replacing of said destination address with said backup access device datalink address enables a transmittal of said received data packet to said second network over said backup connection.

Dunne does not teach or suggest the method recited in claim 1. In particular, Dunne does not teach or suggest “receiving, at said primary access device, a data packet originating from said first network and having a destination address at the ISO datalink layer 2, and replacing, in said data packet, said destination address with a backup access device datalink address identifying a backup access device capable of providing said backup connection; whereby said replacing of said destination address with said backup access device datalink address enables a transmittal of said received data packet to said second network over said backup connection,” as is recited in claim 1.

In the Office Action, the Examiner alleges that router 802 is the primary access device and router 803 is the backup access device recited in claim 1. (See Office Action, p. 2 para. 3). Applicant respectfully disagrees with the Examiner’s interpretation of Dunne. As taught by Dunne, router 801 (not router 802) provides external access to Network B. (See Fig. 8). Router 801 houses the forwarding list that enables a user to select multiple paths. (See Col. 4, lns. 47-50

and lns. 56-59). Routers 802 and 803 are hops on the alternate paths router 801 may select. Thus, Dunne does not disclose a primary access device and a backup access device as alleged in the Office Action.

Moreover, routers 802 and 803 cannot be used for the purpose taught in Dunne for router 801. In response to a test condition showing invalid path to router 802, router 801 redirects communication through router 803. (See Col. 4, line 64 – Col. 5, line 9). Assuming, for purposes of argument only, that router 802 is the primary access device of Dunne (as suggested by the Examiner) then upon determining that a valid path to router 802 does not exist (step 915), the internetwork packet is re-routed by router 801 to router 803, and the data packet originating from said first network and having a destination address at the ISO datalink layer 2 would never be received at the alleged primary access device (router 802) as recited in claim 1. Thus, this interpretation of Dunne is clearly erroneous.

Further, any attempt to modify the teachings of Dunne to have the processing of the forwarding list occurs at either router 802 or 803 would render its teachings inoperative. As disclosed in Dunne and cited in the Office Action “[t]he purpose of redundancy is to provide fault tolerance should the primary path fail.” (See Office Action p. 3, para. 3, citing to Col. 4, lns. 43-44). If the primary path fails, routers 802 or 803 would be unreachable, thus, router 802 or 803 would first be incapable of testing for valid path and second be incapable of receiving any data from Network B, as shown in Fig. 8.

Lastly, Dunne teaches a method that provides “the ability to select one of a plurality of path to a single destination at the network layer.” (Col. 5, lns. 16-18). This does not teach or suggest a method that includes “receiving, at said primary access device, a data packet originating from said first network and having a destination address at the ISO datalink layer 2, and replacing, in said data packet, said destination address with a backup access device datalink address identifying a backup access device capable of providing said backup connection,” as recited in claim 1.

Thus, for at least the reasons that Dunne fails to teach or suggest at least several limitations recited in claim 1, and that any attempt to modify Dunne in accordance with the allegations recited in the Office Action would render Dunne inoperative, the rejection of claim 1 as being anticipated by Dunne cannot stand. Accordingly, Applicant respectfully requests withdrawal of the rejection of claim 1.

Claim 11 recites a backup system for providing a backup connection between a first network and a second network in response to a failure of a primary connection between said first network and said second network. The backup system comprises a backup access device for providing said backup connection and having a device address at the ISO layer 2 datalink layer, a primary access device, connected to said backup access device, providing said primary connection between said first network and said second network and, in response to said failure, replacing the destination address of an incoming data packet, at said datalink layer, with said backup access device datalink address, whereby said replacing of said destination address with said backup access device address enables the transmittal of said data packet to said second network over said backup connection.

As discussed above with respect to claim 1, Dunne teaches a method of internetwork packet filtering at the network layer using a forwarding list stored at a single router internal to the source network that is used to connect a network to external devices. (See Abstract; Fig. 8; and Col. 5, lns. 16-18). The single router employs a traffic filter to forward internetwork packets over different paths defined by entries in the forwarding list based on a test for a valid path. (See Abstract; Fig. 8 – router 801; and Col. 4, line 64 – Col. 5, line 9).

Dunne fails to teach or suggest at least one limitation recited in claim 11. In particular, Dunne does not teach or suggest “a primary access device, connected to said backup access device, providing said primary connection between said first network and said second network and, in response to said failure, replacing the destination address of an incoming data packet, at said datalink layer, with said backup access device datalink address, whereby said replacing of said destination address with said backup access device address enables the transmittal of said data packet to said second network over said backup connection,” as is recited in claim 11.

Rather, in Dunne, router 801 enables the ability to select one of a plurality of paths to a single destination at the network layer. (Col. 5, lns. 16-18). As discussed above, routers 802 and 803 do not provide this service, and thus Applicant respectfully disagrees with the Examiner’s allegation that routers 802 and 803 can be used to anticipate claim 11. Moreover, if one were to modify Dunne to have the forwarding and testing for valid path occur at router 802 or 803, Dunne would be rendered inoperable. As cited in the Office Action “[t]he purpose of redundancy is to provide fault tolerance should the primary path fail.” (See Office Action p. 3,

para. 3, citing to Col. 4, lns. 43-44). If the primary path fails, routers 802 or 803 would be unreachable, thus, router 802 or 803 would first be incapable of testing for valid path and second be incapable of receiving any data from Network B, as shown in Fig. 8.

In addition, Dunne teaches a method that provides “the ability to select one of a plurality of path to a single destination at the network layer,” (Col. 5, lns. 16-18). This does not teach or suggest “a primary access device, connected to said backup access device, providing said primary connection between said first network and said second network and, in response to said failure, replacing the destination address of an incoming data packet, at said datalink layer, with said backup access device datalink address ...,” as recited in claim 11.

Lastly, Fig. 8 of Dunne does not disclose “a primary access device, connected to said backup access device” as suggested in the Office Action. (See Office Action, p. 2-3, para. 3). Fig. 8 does not show a connection between router 802 and 803, except through Network B. (See Fig. 8). In the event the path to router 802 is invalid, there would be no connection between 802 and Network B, and thus no connection between router 802 and 803.

Thus, for at least the reasons that Dunne does not teach or suggest at least several limitations recited in claim 11, and any attempt to modify Dunne as suggested in the Office Action would render Dunne inoperative, the rejection of claim 11 as being anticipated by Dunne cannot stand. Accordingly, Applicant respectfully requests withdrawal of the rejection of claim 11.

Claim 14 depends from claim 11 and is therefore, allowable for at least the same reasons as discussed with respect to claim 11. Accordingly, withdrawal of the rejection of claim 14 is respectfully requested.

Rejections Under 35 U.S.C. §103

Claims 2-5, 7, 10 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dunne in view of U.S. Patent No. 6,108,345 to Liping Zhang (hereinafter Liping Zhang). Applicant respectfully traverses this rejection.

Claims 2-5, 7 and 10 depend from independent claim 1 and therefore incorporate all the limitations recited in claim 1. As discussed above, Dunne does not disclose or suggest “receiving, at said primary access device, a data packet originating from said first network and having a destination address at the ISO datalink layer 2, and replacing, in said data packet, said

destination address with a backup access device datalink address identifying a backup access device capable of providing said backup connection; whereby said replacing of said destination address with said backup access device datalink address enables a transmittal of said received data packet to said second network over said backup connection,” as is recited in Applicant’s claim 1. Liping Zhang fails to cure the deficiencies of Dunne for at least the reason that Liping Zhang also does not disclose or suggest the above recited limitation.

Claim 13 depends from independent claim 11 and therefore incorporates all the limitations recited in claim 11. As discussed above, Dunne does not disclose or suggest “a primary access device, connected to said backup access device, providing said primary connection between said first network and said second network and, in response to said failure, replacing the destination address of an incoming data packet, at said datalink layer, with said backup access device datalink address, whereby said replacing of said destination address with said backup access device address enables the transmittal of said data packet to said second network over said backup connection,” as recited in Applicant’s claim 11. Liping Zhang fails to cure the deficiencies of Dunne for at least the reason that Liping Zhang also does not disclose or suggest this limitation.

Applicant does not acknowledge that the combination of Dunne and Liping Zhang proposed in the Office Action is proper, and reserves the right to traverse the combination in the future. However, Applicant submits that even if one were to combine Dunne and Liping Zhang as proposed in the Office Action, the resulting combination would fail to teach or suggest at least one limitation recited in Applicant’s claims. Moreover, as discussed above with reference to independent claims 1 and 11, any attempt to modify Dunne in accordance with the allegations in the Office Action would render Dunne inoperative. Accordingly, Applicant’s independent claims 1 and 11, and thus also claims 2-5, 7 and 10 which depend from claim 1 and claim 13 which depends from claim 11, are patentable over the references of record, whether taken alone or in combination.

In addition, with regard to claims 2 and 13, the Examiner acknowledges that Dunne does not disclose that the first network is a LAN, but alleges “[t]he general concept of using a first network as a LAN is well known in the art as illustrated by Liping Zhang who discloses a LAN connected to another network.” (Office Action, p. 5). Applicant respectfully disagrees. The Liping Zhang reference recites “LANs 46-48 are connected by a server 62 to a wide area

network.” (Col. 4, lns. 65-66). However, Liping Zhang is not directed to a system and method in a primary access device connecting a first network to a second network over a primary connection, for providing a backup connection between said first network and said second network, as recited in Applicant’s claims. Liping Zhang therefore, does not disclose or suggest that a general concept of using a first network (in the context of Applicant’s claims) as a LAN is well known in the art, as alleged in the Office Action. Nor would it be expected that one skilled in the art would possess such general knowledge from the disclosure in Liping Zhang. Rather, Liping Zhang simply discloses that a LAN may be connected by a server to a wide area network. Accordingly, Applicant respectfully requests that the Examiner withdraw the statement that “the general concept of using a first network as a LAN is well known in the art.”

With respect to claim 4, the Examiner asserts that “the general concept of providing an Ethernet-like network is well known in the art.” (Office Action, p. 5). As discussed above, Liping Zhang does not disclose or suggest that a general concept of using a first network (in the context of Applicant’s claims) as a LAN is well known in the art. Nor does Liping Zhang disclose or suggest a general concept of providing an Ethernet-like network, wherein the local area network is an Ethernet-like network (in the context of the Applicant’s claims), as alleged in the Office Action. Accordingly, Applicant respectfully requests that the Examiner withdraw the statement that “the general concept of providing an Ethernet-like network is well known in the art.”

In view of the foregoing, claims 2-5, 7, 10 and 13 are patentable over the art of record and withdrawal of the rejection of claims 2-5, 7, 10 and 13 is respectfully requested.

Claims 6, 8 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dunne and Liping Zhang as applied to claim 5, and further in view of one of the following: U.S. Patent No. 6/298,063 to Coile, et al. (hereinafter Coile; claim 6), U.S. Patent No. 7,042,876 to Jayasenani, et al. (hereinafter Jayasenani; claim 8); and the combination of U.S. Patent No. 6,968,389 to Menditto, et al., (hereinafter Menditto) and U.S. Patent No. 7,058,850 to Cochran (hereinafter Cochran; claim 9). Applicant respectfully traverses these rejections.

Claims 6, 8 and 9 depend from independent claim 1 and therefore incorporate all the limitations recited in claim 1. As discussed above, Dunne/Liping Zhang do not disclose or suggest “receiving, at said primary access device, a data packet originating from said first

network and having a destination address at the ISO datalink layer 2, and replacing, in said data packet, said destination address with a backup access device datalink address identifying a backup access device capable of providing said backup connection; whereby said replacing of said destination address with said backup access device datalink address enables a transmittal of said received data packet to said second network over said backup connection,” as is recited in Applicant’s claim 1. Any of Coile, Jayasenan, or the combination of Menditto and Cochran fails to cure the deficiencies of Dunne/Liping Zhang for at least the reason that these references also do not disclose or suggest this limitation.

Applicant does not acknowledge that the combinations of Dunne with Liping Zhang and any of Coile, Jayasenan, Menditto and Cochran proposed in the Office Action are proper and reserves the right to traverse the combinations in the future. However, Applicant submits that even if one were to combine the references as proposed in the Office Action, the resulting combinations would fail to teach or suggest at least one limitation recited in Applicant’s claims. Moreover, as discussed above with reference to independent claim 1, any attempt to modify Dunne in accordance with the allegations in the Office Action would render Dunne inoperative. Accordingly, Applicant’s independent claim 1, and thus also claims 6, 8 and 9 which depend from claim 1, is patentable over the references of record, whether taken alone or in combination.

In addition, with respect to claim 8, Applicant respectfully disagrees with the assertion in the Office Action that “[t]he general concept of providing a backup access device IP network station address to a primary device is well known in the art.” (Office Action, p. 8). The portions of Jayasenan cited by the Examiner recite “[i]n the embodiment of FIG. 2A, primary SNAT router 202 may be configured to create, delete and/or modify NAT translation entries in a network address translation (NAT) Table (e.g. 326, Fig. 3) residing on primary SNAT router 202. Timer management of the entries in the NAT Table may also be updated by the primary SNAT router.” (Col. 6, lns. 35-38). It is unclear from what source the first quotation on p. 8 of the Office Action comes, as none of the three references cited in the rejection of claim 8 contain such language. It is also unclear how Jayasenan’s alleged disclosure “that his implementation causes the address of standby appliance to be identical to the primary address after notification of the shutdown” would disclose that a general concept of providing a backup access device IP network station address to a primary devices is well known. Therefore, Applicant respectfully

requests the Examiner withdraw the assertion that this concept is well known as illustrated by Jayasenan.

With respect to claim 9, Applicant respectfully disagrees with the assertion in the Office Action that “[t]he general concept of providing domain name server relay and cache services is well known in the art as illustrated by Menditto.” (Office Action, p. 10). The Office action fails to cite to a portion of Menditto that discloses the alleged general knowledge. The Office Action does cite to Col. 11, lns. 64-67 and Abstract line 4, however, neither of these citations teach general concepts related to domain name server relay and caching, as alleged. Rather, Col 11, lns. 64-67 recites “[w]hen the connection list becomes full, the current connection may be saved by removing the least recently used connection in the connection list.” It is unclear how a connection list would teach a general concept of domain name server relay or caching services, as alleged.

Therefore, Applicant respectfully requests the Examiner withdraw the allegation that “the general concept of providing domain name server relay and cache services is well known in the art.”

In addition, Applicant also disagrees with the assertion in the Office Action that “[t]he general concept of purging a cache after device failure is well known in the art as illustrated by Cochran who discloses purging a cache in a communications link method.” (Office Action, p. 10). As noted in the Office Action, Cochran discloses purging a cache in a communications link method. Further, the Examiner admits that Cochran would have to be modified in order to disclose “the use of purging a cache in response to device failure.” (Office Action, p. 11). As the Examiner admits that Cochran must be modified to disclose “the use of purging a cache in response to device failure,” Cochran cannot illustrate that this concept is “well known.”

Therefore, Applicant respectfully requests the Examiner withdraw the allegation of “the general concept of purging a cache after device failure is well known in the art.”

In view of the foregoing, each of claims 6, 8 and 9 is patentable over the art of record, and withdrawal of the rejection of claims 6, 8 and 9 is therefore, respectfully requested.

Claims 12, 15 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dunne in view of one of the following references: Menditto (claim 12); U.S. Patent No. 6,324,585 to Shujin Zhang, et al. (hereinafter Shujin Zhang; claim 15); and U.S. Patent No.

6,941,356 to Meyerson (hereinafter Meyerson; claim 16). Applicant respectfully traverses these rejections.

Claims 12, 15 and 16 depend from independent claim 11 and therefore incorporate all the limitations recited in claim 11. As discussed above, Dunne does not disclose or suggest “a primary access device, connected to said backup access device, providing said primary connection between said first network and said second network and, in response to said failure, replacing the destination address of an incoming data packet, at said datalink layer, with said backup access device datalink address, whereby said replacing of said destination address with said backup access device address enables the transmittal of said data packet to said second network over said backup connection,” as recited in Applicant’s claim 11. Any of Menditto, Shujin Zhang and Meyerson fail to cure the deficiencies of Dunne for at least the reason that none of these references discloses or suggests the above-recited limitation.

Applicant does not acknowledge that the combination of Dunne with any of Menditto, Shujin Zhang and Meyerson proposed in the Office Action is proper and reserves the right to traverse the combinations in the future. However, Applicant submits that even if one were to combine the references as proposed in the Office Action, the resulting combinations would fail to teach or suggest at least one limitation recited in Applicant’s claims. Moreover, as discussed above with reference to independent claim 11, any attempt to modify Dunne in accordance with the allegations in the Office Action would render Dunne inoperative. Accordingly, Applicant’s claim 11, and thus also claims 12, 15 and 16, is patentable over the references of record, whether taken alone or in combination.

In addition, with respect to claim 12, Applicant respectfully disagrees with the assertion in the Office Action that “[t]he general concept of connecting a backup device and a primary device by Ethernet is well known in the art as illustrated by Meditto who discloses an Ethernet connection in between a backup device and a primary device.” (Office Action, p. 9).

In the Office Action, the Examiner cites to portions of Meditto stating “content gateway processor 30 is connected to content gateway router 28 via a fast high capacity connection (e.g. gigabit Ethernet),” and “there may be more than one content gateway processor 30,” and alleges that two content gateway processors are connected by Ethernet. (See Office Action, p. 9). However, the Office Action contains no discussion of, nor does the portion of Meditto cited describe, how content gateway processor 30 and content gateway router may form a primary and

backup device. The mere presence of more than one content gateway does not teach or suggest a “general concept of connecting a backup device and a primary device by Ethernet,” nor does an indication that more than one content gateway may exist describe how they are connected. Therefore, Applicant respectfully requests that the Examiner withdraw the allegation that “the general concept of providing a backup access device IP network station address to a primary device is well known in the art.”

With respect to claim 15, Applicant respectfully disagrees with the assertion in the Office Action that “[t]he general concept of having a primary access device further comprising domain name server relay is well known in the art as illustrated by Shujin Zhang who discloses domain name server relay in a primary access device.” (Office Action, p. 11). The Examiner alleges that Shujin Zhang “discloses domain name server relay (“forwarding the DNS request to the first matching accessible network. Abstract, lines 12-13) using a primary connection (Column 2 of the specification, line 34), which means he is using a primary access device.” (Office Action, p. 11). Applicant respectfully disagrees with the Examiner’s interpretation of Shujin Zhang.

Col. 2, lns. 34-39 of Shujin Zhang recite:

Gateway 84 maintains a first connection (either a primary PPP connection or a secondary connection) to a first network 86. Gateway 84 also maintains a second connection (a secondary connection) to a second network 88. Other network connections may be established as additional secondary connections.

As described in Shujin Zhang a single gateway, Gateway 84, has multiple connections, a first and a second. The citation to Shujin Zhang contains no teaching of the use of Gateway 84 as a primary connection device, nor does it provide teachings of the use of Gateway 84 in the context of the Applicant’s claim, as alleged in the Office Action. As Shujin Zhang does not teach the use of Gateway 84 as a primary connection device as alleged, Shujin Zhang also does not support the Examiner’s allegation of a well known general concept. Accordingly, Applicant respectfully requests the Examiner withdrawn the allegation that “the general concept of having a primary access device further comprising domain name server relay is well known in the art.”

With respect to claim 16, Applicant respectfully disagrees with the assertion in the Office Action that “[t]he general concept of providing a primary access device with a DHCP server is well known in the art as illustrated by Meyerson who discloses a primary access device with a DHCP server.” (Office Action, p. 12). The Office Action cites to Col. 9, line 46 to support the

allegation that a primary device uses a DHCP server, (see Office Action, p. 12), Applicant respectfully disagrees with the interpretation of Meyerson. Col. 9, Ins. 41-49 recite:

Also, conventional standards exist for automatically configuring a network card for use on a TCP/IP network; e.g. DHCP can automatically assign an IP address and gateway address. However, these standards work by defining a protocol for determining this information from servers running on the network (like a DHCP server.) The primary device is not acting on the devices it detects in the network, rather it is being told what configuration values to use by a device on the network.

Rather than disclosing that a primary device uses a DHCP, as alleged, the cited portion of Meyerson describes the use of conventional standards for configuring devices on a TCP/IP network, for example DHCP. In the portion cited, Meyerson continues to describe how the primary access device operates differently than DHCP. As Meyerson does not teach the use of a DHCP server, as alleged, the allegation of a well known general concept is not supported. Moreover, Meyerson does not teach the use of DHCP in the context of a backup system for providing a backup connection between a first network and a second network in response to a failure of a primary connection between said first network and said second network. Accordingly, Applicant respectfully requests the Examiner withdrawn the allegation that “the general concept of providing a primary access device with a DHCP server is well known in the art.”

In view of the foregoing, claims 12, 15 and 16 are patentable over the art of record, and withdrawal of the rejection of claims 12, 15 and 16 is therefore, respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

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